APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/815,603	03/23/2001	David Clear	40033/JEJ/X2	7205

35114	7590	10/04/2004

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EXAMINER
GREY, CHRISTOPHER

ART UNIT	PAPER NUMBER
2667	

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
Office Action Summary	09/815,603	CLEAR ET AL.
	Examiner	Art Unit	
	Christopher P Grey	2667	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>23 March 2001</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-24</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) <u>1-24</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some *   c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>2</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described
> as set forth in section 102 of this title, if the differences between the subject matter sought to
> be patented and the prior art are such that the subject matter as a whole would have been
> obvious at the time the invention was made to a person having ordinary skill in the art to which
> said subject matter pertains. Patentability shall not be negatived by the manner in which the
> invention was made.

1.   Claims 1-9 rejected under 35 U.S.C. 103(a) as being unpatentable over

Lamberton et al. (US 6754220) in view Li et al. (US 5473599).

Claims 1   Lamberton et al. (Lamberton' herein) discloses a method

and system within a local area network (LAN) that comprises a plurality of active

routers assigned to a plurality of hosts. The hosts and routers are connected via

a LAN medium (see element 330 in Fig 1). The hosts send packets of IP protocol

to the routers via the LAN medium. Lamberton makes reference to the use of

HSRP and VRRP as the types of protocol being applied to the LAN (as disclosed

in Col 3 lines 52- Col 4 lines 25).

Lamberton does not show where the physical routers determine

responsibility for forwarding a packet received on the LAN medium as a function

of a redundant router protocol type of the packet. However, Li et al (Li' herein)

discloses a system and protocol for routing data packet from a host on a LAN

through a virtual address belonging to a group of routers. Within this system,

from a group of active routers one is chosen to emulate a virtual router. A

standby router, also from the group of active routers, backs up the active router

so that if the active router fails, the standby router emulates the virtual router.

The virtual router may be any physical router elected among a group of routers

connected to the LAN (See Col 2 lines 15-41).

Claims 2   As previously mentioned, Lamberton makes reference to the

protocol type being VRRP or HSRP. With both of these being mentioned, it

should be clear in the art for the possibility of a first protocol type VRRP and a

second protocol type HSRP (as disclosed in Col 3 lines 52- Col 4 lines 25).

Li further illustrates a group of active routers and the emulation of a virtual router,

which implies the system having the option of a standby router protocol (HSRP)

and a VRRP as the protocol type.

Claims 3, 4, 5 and 6   Lamberton shows a plurality of hosts forming a

group of hosts as can be seen in element 320 in Fig 3. Lamberton does not

disclose a host having configured thereon a virtual router address of the

redundant router protocol type.

However, Li's invention discloses a protocol (possibly first, second, third or fourth

redundant router protocol type) for routing data packets from a host on a LAN

through a virtual address as disclosed in the abstract and Col 2 lines 16-40.

Therefore it would have been obvious to one in the ordinary skill in the art

at the time to modify the plurality of hosts contained within Lamberton's invention

with the routing through a virtual address as disclosed in Li in order to achieve

the use of a virtual router as a possible primary and standby router.

Claims 7, 8 and 9   Lamberton shows where that matching of MAC

addresses occurs in the router. From fig 4, MAC address of IP is sent through a

mediator via element 470. When MAC addresses match, IP packets are sent to a

first router (element 440 in fig 4) resulting in routing. When MAC addresses do

not match, a request is sent back to the host and the MAC address matching a

second router (element 450 in fig 4) is sent and matched to its router, resulting in

routing (see Col 4 line 61- Col 5 line16).

Therefore it would have been obvious to one of the ordinary skill in the art,

at the time of the invention to modify the system of routing, with a plurality of

routers and hosts in Lambertons invention with the procedure of matching MAC

addresses as disclosed by Li. The motivation for this is to achieve a routing

mechanism which allows the choice of a router depending on a search and

match of MAC addresses.

2.   Claims 10-23 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Lamberton et al. (US 6754220) in view of Chung (US 6751225).

Claims 10, 11 and 18   Lamberton discloses a method of routing a

plurality of packets, assigning a plurality of active routers to a plurality of hosts

(disclosed in Col 3 lines 10-27). Packets are routed using protocol, as is

disclosed in Col 3 line 53- Col 4 line 19 and Col 4 lines 26-60. Also disclosed

within Lamberton's invention is a packet entering a mediator with a packet

address or default packet router address as disclosed in Col 4 lines 26-60.

Lamberton discloses a comparator in the mediator (element 300 in fig 3), which

uses the comparison of MAC addresses (considered prefix) in order to match the corresponding destination router. Lamberton does not fully disclose comparing of a prefix of the packet.

However, Chung discloses an invention relating to the routing of packets which further discusses header information (prefix) of incoming packets being compared in order to direct the packet to its corresponding router (see Col 7 lines 12- Col 8 lines 4 also see col 4 line62- col 5 line2)

Claim 13, 14, 15, 16, 17, 19, 20, and 23

Lamberton fails to disclose:

Claim 13 the step of formulating a key to search a database table to determine if the router is responsible for forwarding the packet

Claim 14 the key including a protocol ID to indicate the redundant routing protocol type for the packet

Claim 15 the key including a VLAN address.

Claim 16 the key including a group ID to indicate the redundant routing protocol type for the packet

Claim 17 The packet being routed by a virtual router

Claim 19 The router further comprising means for determining whether the router is responsible for forwarding the packet.

Claim 20 The virtual router address includes a MAC address and a VLAN ID

Claim 23 Prefix match means for determining whether the packet is of a redundant router protocol type.

However, Chung discloses a look-up table (database table) that allows

determination of the corresponding router (see table 1 Col 26 lines 20- 43).

Within the lookup table is a column for:

MAC address that allows a packet's MAC address (claims 11 and 20) to be

searched within the table.

Port ID that identifies the possible ports (redundant routing protocol type). The

port ID within the table verifies the protocol ID (claim 14)

VLAN ID, which verifies incoming VLAN address (claim 15). This extends to

claims 17 and 20, allowing routing using a virtual router address.

Other associated data, which as is well known in the art, could be for the

searching of Group ID (claim 16).

Therefore it would have been obvious to one of the ordinary skill in the art

to modify the routing system of Lamberton which contains a means for

comparison, with a further means of comparison as disclosed by Chung in order

to better route a packet given the designer of the systems preferences.

Claim 12   Chung states that the portions of the packet generally

contain more than 32 bits, so there is a need for multiple memory write cycles, as

one cycle only deals with 32 bits at a time. Chung uses the word "Generally", to

disclose that it is well known in the art that the packet may contain portions that

are more than 32 bits (see Col 8 line 65- Col 9 line14).

Claim 21 and 22   Lamberton discloses that the comparing means,

mediator, can be any type of processing unit connected to a LAN and running IP

protocol (programmable packet switching controller or hard wired packet

switching controller), as is well known in the art (see Col 4 lines 26-60).

Therefore it would have been obvious to one of the ordinary skill in the art

at the time of the invention to expand upon Lamberton's sytem of routing, which

uses comparison means of MAC addresses, with Chung's invention, which uses

a look up table in its comparison method, using various addresses and covers a

virtual aspect. The motivation for this modification is to have a more specific

choice of routing and allow virtual access.

3.   Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Lamberton et al. (US 6754220) in view Li et al. (US 5473599) further in view of

Oconnell et al (US 6661787).

Claim 24   Lamberton and Li disclose all of the limitations of claim 24, but fail

to disclose a range check means for determining whether at least one of the

VLAN ID and redundant router protocol group ID is within a predetermined range.

However, Oconnell introduces a device and method for routing in a LAN

environment that contains a look-up table. Oconnell uses a specific (predefined)

range of MAC values to determine an initial form of verification. The MAC

address and VLAN ID in element 33 in fig 3 show that these specifications are

sent together, and clearly a range for the VLAN ID could be used rather than the

range for the MAC address depending upon the designers specifications and

preferences (see Col 4 line55- Col5 line 4).

Therefore it would have been obvious to one in the ordinary skill in the art at the

time to take the modifications previously made with the inventions of Lamberton

and Li, and further make a modification of the look up table provided by Li with

the range check provided by Oconnell in order to achieve a highly screened

routing mechanism.

Conclusion

4.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Grey whose telephone number is (571)272-3160. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on (571)272-3179. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

<div align="right">
Christopher Grey
Examiner
Art Unit 2667
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AFSAR QURESHI   9/23/04
PATENT EXAMINER